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Consistency of fitting the DSC data to complete Lumry-Eyring and Two-state models

Mojtaba Amani

Department of Biochemistry, Faculty of Medicine, Ardabil university of Medical Sciences (ArUMS), Ardabil, Iran

Abstract

The consistency of the results of fitting the DSC data to complete Lumry-Eyring and Two-state models was assessed for cupper containing amine oxidase from *Euphorbia characias* (ELAO). Thermal denaturation of ELAO was reported to be irreversible two-state. Least square fitting of experimental and models were done using Solver function of Excel software. Results showed that fitting parameters for two models are in very good agreement, but two extra parameters are obtained in Lumry-Eyring model, T1/2 and □H. Lumry-Eyring model gives large difference between T1/2 and T* separating thermal effects of two steps. The low values of □H and T1/2 cause that the thermal effects of first step (Equilibrium) of lumry-Eyring model to be omitted. This means that in low temperatures, the unfolded and fold states are in fast equilibrium.